

LITERATURE CITED

- BARBER, H. S.
1941. Species of fireflies in Jamaica (Coleoptera, Lampyridae). Proc. Rochester Acad. Sci. 8:1-13.
- GREEN, J. W.
1956. Revision of the Nearctic species of *Photinus* (Lampyridae: Coleoptera). Proc. California Acad. Sci. (4)28(15):561-613, 19 figs.
- MCDERMOTT, F. A.
1958. Four new lampyrid fireflies. Coleop. Bull. 12:21-28, 3 figs.
1962. Illustrations of the aedeagi of the Lampyridae (Coleoptera). Coleop. Bull. 16(1):21-27, 23 figs.
- OLIVER, E.
1907. Coleoptera, Fam. Lampyridae. Genera Insectorum, fasc. 53:1-74, 3 pls.



CARPOPHILUS PILOSELLUS MOTSCHULSKY, NEW
SYNONYMY AND DISTRIBUTION¹ (COLEOPTERA:
NITIDULIDAE)

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Carpophilus pilosellus Motschulsky is a member of the *dimidiatus* group which includes nearly a dozen widely distributed beetles infesting stored products. This species occurs occasionally in the southern part of the United States.

The synonymy is as follows:

Carpophilus pilosellus Motschulsky, 1858, Etudes Ent. 7: 41.

Carpophilus floridanus Fall, 1910, Trans. Amer. Ent. Soc. 36: 122.

Carpophilus halli Dobson, 1954, Ent. Mon. Mag. 88: 299 (NEW SYNONYMY)

Fall's type of *floridanus* from Enterprise, Florida is at the Museum of Comparative Zoology, Cambridge, Massachusetts. It is a male which has its hind tibiae abruptly enlarged for the distal two-thirds of their length. Fall was the first to mention the expanded male hind tibiae in connection with this species. Gillogly (1962. Insects of Micronesia 16: 158), who placed *floridanus* in synonymy, used this character in his key as a basis for separa-

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tion of *pilosellus* from *dimidiatus* (Fab.). However, it is a somewhat variable character and in some males of *pilosellus* it approaches the condition found in *dimidiatus* and *freemani* Dobson where the enlargement is gradual. Male and female specimens of *pilosellus* can be distinguished from *dimidiatus* by examining the antennae and the surface of the hypomeron (i.e., the lateral margin of the pronotum which is inflexed on the underside). The third antennal segment is 1.3 to 1.4 times the length of the second in *pilosellus* and 1.6 to 1.8 times the second in *dimidiatus*. Punctures are present on the hypomeron of *pilosellus*, but they are much shallower and less distinct than those of *dimidiatus*. These punctures are difficult to demonstrate with incandescent illumination, but they may be seen readily at 72 x magnification with fluorescent light or bright, diffused sunlight.

Carpophilus halli was described from material from Nigeria, Sierra Leone, and British Honduras. Examination of material supplied by Dobson and comparison of his figure of the aedeagus with that of North American specimens shows *halli* to be identical with *pilosellus*. Dobson may have been misled by Fall's description, because the male among the specimens of *halli* which he loaned me did not have the hind tibia abruptly enlarged.

In addition to the distribution of *pilosellus* given above, Grouvelle (1913. *Coleopterorum Catalogus* 56: 91) listed the East Indies, China, Japan, and New Caledonia, while Gillogly (*loc. cit.*) added Madagascar and Micronesia. This species also has been seen in collections from the following localities and materials: U.S.A.: Georgia (wheat flour), Louisiana (wheat flour), Arkansas (corn meal), Kansas (corn meal), Texas (corn meal), California; Mexico; Guatemala (avocado); Nicaragua (sorgum seed); Surinam (tamarind bean pod and garlic); Venezuela (pineapple); Peru (garlic); Curacao (yams); Haiti (*Dioscorea* sp. roots); Dominican Republic (onions); Cuba (cassava); Philippine Islands (*Areca catechu* and starch); and Angola (potato tubers).



CONCERNING ONTHOPHAGUS: In their natural lives they ascend and descend and sink their cylindrical shafts into the soil always in the perpendicular line. To dig in the horizontal is quite foreign to their nature; it is an instinct which they never employ in the ordinary routine duties of their toil. Place them in such a way that they must modify their behaviour. Enclose them, for example, in a horizontal tube where they can burrow in only one line. Do this and their instincts will assuredly beguile them. All they will do is to beat against the barriers. Although the path lies open at their side, yet some of them will be irretrievably lost.—R. W. G. Hingston, 1923, *A Naturalist in Hindustan*.